

## CLAIMS

1. A quasi-continuous, positive mesh planetary-gear transmission, comprising an input element and an output element that can assume a plurality of concentric or eccentric positions at varying rotational speeds as a result of displacement, the rotating planetary gears (14, 15) being coupled cyclically through a load path (17) and in this coupled state directly or indirectly transmitting torque from the input element to the output element, characterized in that  
the load path length defined by eccentric displacements by means of a variable transmission is a whole-number multiple of the tooth width.

2. The planetary-gear transmission according to claim 1, characterized in that the variable transmission comprises a ratchet transmission that allows the eccentric positions to be adjusted and locked.

3. The planetary-gear transmission according to claim 1 or 2, characterized by a sensor, the vibration readings of which serve as adjusting variables for the detailed adjustment of the eccentric positions of the input and output elements at which the greatest running smoothness is achieved.

4. The planetary-gear transmission according to any one of claims 1 to 3, characterized in that the displacement path, along which the input and output elements can be moved in order to

vary the rotational gear ratio, is not linear, with the positions to be actuated, at which the greatest running smoothness is achieved, being preferably equidistant and/or with means being provided to be able to easily detect these positions.

5           5. The planetary-gear transmission according to any one of claims 1 to 4, characterized in that a ring gear (12) with an annular groove and a star wheel (10) with radial grooves (11) as well as planetary gears (14, 15) are provided that are coupled to the ring gear (12), the radial grooves (11) in the star wheel (10)  
10           extending along a non-linear contour so that easy actuation of the positions with minimal fluctuations is possible and/or that these positions are positioned in an equidistant manner.

15           6. The planetary-gear transmission according to any one of claims 1 to 5, characterized in that the radial grooves (11) in the star wheel (10) and the displacement paths of the eccentric positions do not extend in a straight manner, but extend in special contours, so that the positions with minimal fluctuations can be easily actuated, preferably achieving equidistant positions for minimal fluctuations.

20           7. The planetary-gear transmission according to any one of claims 1 to 6, characterized in that the number of teeth is adjusted to the number of planetary gears such that the condition of a whole-number load path length is achieved in preferred gear ratios and/or eccentric positions.

8. The planetary-gear transmission according to any one of claims 1 to 7, characterized in that the number of teeth is a whole-number multiple of the number of planetary gears.